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EXAMINER

KIM, DAVID S

ART UNIT PAPER NUMBER

2633

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Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/608,657

Applicant(s)

ARECCO ET AL.

Examiner

David S. Kim

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3, 6-10, 13 and 16-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-10, 13 and 16-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

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## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file. Certified copies of the 99112552.7 application and the 01-11594.8 application have been received. Applicant's compliance with the priority objections raised in a previous Office Action (Paper No. 10, p. 2) are noted and appreciated.

### ***Specification***

2. Applicant's compliance with the objections raised in a previous Office Action (Paper No. 10, p. 3) regarding an issue of new matter are noted and appreciated. The added material, which was not supported by the original disclosure, was removed as part of Applicant's response in Paper No. 11.

3. Examiner appreciates Applicant's compliance with the objections raised in a previous Office Action (Paper No. 10, p. 3). Additionally, the disclosure is still objected to because of the following informalities:

There appears to be discrepancies with the drawings:

an inaccurate table on page 24.

Appropriate correction is required.

### **Claim Objections**

4. **Claim 1** is objected to because of the following informalities:

In the 3<sup>rd</sup> to last line, "the optical switch unit" is used where "an optical switch unit" may be intended. Otherwise, antecedent basis is lacking.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

5. Applicant's reply (Paper No. 13) has overcome the following rejection(s):  
rejection of claims 14-15 under 35 U.S.C. 112 by cancellation of claims 14-15.

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***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. **Claims 1-3, 13, and 16-21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiragaki et al. (European Patent Application EP 920153 A2) in view of Cadeddu et al. (U.S. Patent No. 5,647,035) and Karasan et al. ("Optical restoration at the wavelength-multiplex-section level in WDM mesh networks").

**Regarding claim 1**, Shiragaki et al. discloses:

An autoprotected optical communication system (Figures), comprising:

a first optical carrier (ring 101 in Fig. 8) configured to transport optical signals in a first direction;

a second optical carrier (ring 102 in Fig. 8) configured to transport optical signals in a second direction that is opposite to the first direction (clockwise in ring 101 and counterclockwise in ring 102 in Fig. 8); and

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a plurality of nodes (nodes A and B in Fig. 8) connected along the first optical carrier and the second optical carrier to form bidirectional links, the plurality of nodes communicating in pairs (pairs of nodes in Figures), one of the pairs defining a working link (working link in Fig. 11A) associated with a portion of the first optical carrier and a portion of the second optical carrier and being configured to exchange optical signals using a first wavelength ( $\lambda_1$  in Fig. 8) on the first optical carrier (ring 101 in Fig. 8) and a second wavelength ( $\lambda_3$  in Fig. 8) that is different from the first wavelength ( $\lambda_1$  in Fig. 8) on the second optical carrier (ring 102 in Fig. 8) during a normal condition, the one pair of nodes being configured (Fig. 10) to exchange optical signals using the first wavelength ( $\lambda_1$  in Fig. 10) on the second optical carrier (ring 102 in Fig. 10) and the second wavelength ( $\lambda_3$  in Fig. 10) on the first optical carrier (ring 101 in Fig. 10) during a failure condition, wherein each of the plurality of nodes comprises:

a plurality of information insertion devices (monitor circuits and protection switches in Figures) optically coupled to a signal input means (inputs to protection switches for transmitting in Figures) and configured to insert signaling information (col. 6, lines 1-4) into the optical signals; and

a plurality of information extraction devices (monitor circuits and protection switches in Figures) optically coupled to a signal output means (outputs from protection switches for receiving in Figures) and configured to extract signaling information from the optical signals (col. 6, lines 41-53).

wherein the plurality of information insertion devices (monitor circuits and protection switches in Figures) and the plurality of information extraction devices (monitor circuits and protection switches in Figures) optically couple the optical switch unit (switches in Figures) to the first optical carrier and the second optical carrier.

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Shiragaki et al. does not expressly disclose:

said signal input means comprising an optical transmitter; and

said signal output means comprising an optical receiver.

However, Cadeddu et al. also teaches such input means comprising optical transmitters (Cadeddu et al., transmitters 14B and 15A in Figs. 3-6) and such output means comprising optical receivers (Cadeddu et al., receivers 14A and 15B in Figs. 3-6). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have the inputs of Shiragaki et al. comprise transmitters and the outputs of Shiragaki et al. comprise receivers, as taught in Cadeddu et al. One of ordinary skill in the art would have been motivated to do this since transmitters and receivers are inherently necessary to generate and process optical signals in the nodes of Shiragaki et al. in view of Cadeddu et al.

Shiragaki et al. in view of Cadeddu et al. still does not expressly disclose:

said information insertion and extraction devices including optical transponders being configured to change wavelengths of the optical signals.

However, Karasan et al. teaches such transponders (Karasan et al., page 1343, col. 2, last paragraph). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to include the transponders of Karasan et al. in the information insertion and extraction devices of Shiragaki et al. in view of Cadeddu et al. One of ordinary skill in the art would have been motivated to do this to provide adaptation of inter-node signals of one wavelength (such as 1.55  $\mu\text{m}$ ) to intra-node signals of another standard wavelength (such as 1.3  $\mu\text{m}$ ). "Such transponders thus arrest accumulating performance-degradations; provide the open, nonproprietary interfaces that permit multivendor interworking; and offer a means of carrying out the performance-monitoring and fault-localization that are essential in deployed networks" (Karasan et al., page 1343, col. 2, last paragraph – page 1344, col. 1, 1<sup>st</sup> paragraph).

**Regarding claim 2**, Shiragaki et al. in view of Cadeddu et al. and Karasan et al. discloses:

The system of claim 1, wherein each of the plurality of nodes selectively uses a predetermined subset of wavelengths ( $\lambda_1$  and  $\lambda_3$  in Fig. 10) within a set of transmission wavelengths ( $\lambda_1$ - $\lambda_4$  in Fig. 10), each of the plurality of nodes comprising:

a plurality of optical add/drop multiplexers (Fig. 10) serially connected to the first (ring 101 in Fig. 10) optical carrier and the second optical carrier (ring 102 in Fig. 10), respectively, each of the optical add/drop multiplexers configured to selectively perform at least one of adding the subset of wavelengths to the first optical carrier and to the second optical carrier, dropping the subset of wavelengths from the first optical carrier and the second optical carrier, and bypassing remaining wavelengths ( $\lambda_2$  and  $\lambda_4$  in Fig. 10) of the set of transmission wavelengths.

**Regarding claim 3**, Shiragaki et al. in view of Cadeddu et al. and Karasan et al. discloses:

The system of claim 1, wherein each of the plurality of nodes comprises:  
an optical transmitter (Cadeddu et al., transmitters 14B and 15A in Figs. 3-6);  
an optical receiver (Cadeddu et al., receivers 14A and 15B in Figs. 3-6); and  
a reconfigurable optical switch unit (protection switches and path switches in Figures) selectively coupling the optical transmitter (transmitters of Cadeddu et al. coupled to inputs to protection switches for transmitting in Figures of Shiragaki et al., see treatment of claim 1 above) and the optical receiver (receivers of Cadeddu et al. coupled to outputs from protection switches for receiving in Figures of Shiragaki et al., see treatment of claim 1 above) to the first optical carrier and the second optical carrier.

**Regarding claim 13**, claim 13 is a node claim that corresponds largely to a coherent combination of the limitations in system claims 1 and 3. Since all these claims are rejected

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under Shiragaki et al. in view of Cadeddu et al. and Karasan et al., the corresponding limitations of node claim 13 are found in Shiragaki et al., Cadeddu et al., and Karasan et al. Additionally, Shiragaki et al. in view of Cadeddu et al. and Karasan et al. coherently teaches the limitations in claims 1 and 3. That is, the limitations in claims 1 and 3 are not divergently taught under Shiragaki et al. in view of Cadeddu et al. and Karasan et al. Therefore, the recited means in system claims 1 and 3 read on the corresponding means in node claim 13. Claim 13 also includes limitations absent from claims 1 and 3. Shiragaki et al. in view of Cadeddu et al. and Karasan et al. also discloses these limitations:

a plurality of optical switches (protection switches and path switches in Figures) coupled to the transmitting transponders and the receiving transponders (Karasan et al., page 1343, col. 2, last paragraph), one of the optical switches being coupled to the optical transmitter (protection switches FROM NETWORK ELEMENT in Figures), another one of the optical switches being coupled to the optical receiver (protection switches TO NETWORK ELEMENT in Figures),

wherein the optical switches are configured to operate selectively under a normal operating condition and under a failure condition, the transponders using a first wavelength ( $\lambda_1$  in Fig. 10) on the first optical carrier (ring 101 in Fig. 10) and a second wavelength ( $\lambda_3$  in Fig. 10) that is different from the first wavelength on the second optical carrier (ring 102 in Fig. 10) during the normal condition, the transponders using the first wavelength ( $\lambda_1$  in Fig. 10) on the second optical carrier (ring 102 in Fig. 10) and the second wavelength ( $\lambda_3$  in Fig. 10) on the first optical carrier (ring 101 in Fig. 10) during the failure condition.

**Regarding claim 16**, Shiragaki et al. in view of Cadeddu et al. and Karasan et al., discloses:



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The node according to claim 13, wherein the first wavelength and the second wavelength ( $\lambda_1$  and  $\lambda_3$  in col. 13, lines 30-35) are selected from a set of transmission wavelengths ( $\lambda_1$ - $\lambda_4$  in col. 13, lines 30-35), the node further comprising:

a plurality of optical add/drop multiplexers (ADMs in Fig. 9) configured to optically couple the transmitting transponders and the receiving transponders to the first optical carrier (ring 101 in Fig. 10) and the second optical carrier (ring 102 in Fig. 10) to feed and extract a subset of wavelengths from the optical carriers, and to bypass remaining wavelengths ( $\lambda_2$  and  $\lambda_4$  in Fig. 10) of the set of transmission wavelengths.

**Regarding claims 17 and 19-21**, Shiragaki et al. in view of Cadeddu et al. and Karasan et al. does not expressly disclose:

the optical switches including:

- 2x2 switches and discrete switching components;
- an integrated switching matrix; or
- at least one of opto-mechanical switches, thermo-optical switches, magneto-optical switches, liquid crystal switches, semiconductor switches, electro-optical switches, micro-mechanical switches, and lithium niobate integrated circuit switches.

However, all these various switch configurations are well known and conventional in the art. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have the optical switches of Shiragaki et al. in view of Cadeddu et al. and Karasan et al. include one of these various switch configurations from this broad range of choices. One of ordinary skill in the art would have been motivated to do this to provide design flexibility, thus enabling one skilled in the art to make and use the node of Shiragaki et al. in view of Cadeddu et al. and Karasan et al. according to one's constraints in costs, space, and time.

**Regarding claim 18**, Shiragaki et al. in view of Cadeddu et al., and Karasan et al. discloses:

The node according to claim 13, wherein the optical switches include 1 x2 and 2x 1 switches (switches in Figures).

9. **Claims 6-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiragaki et al. in view of Cadeddu et al.

**Regarding claim 6**, claim 6 is a method claim that corresponds largely to a coherent combination of the limitations in system claims 1 and 3. In particular, many of the limitations in method claim 6 correspond to the limitations of system claims 1 and 3 that are disclosed by Shiragaki et al. in view of Cadeddu et al.; however, this rejection of claim 6 does not rely on the teachings of Karasan et al. Since these limitations of claims 1 and 3 are disclosed by Shiragaki et al. in view of Cadeddu et al., the corresponding limitations of method claim 6 are found in Shiragaki et al. and Cadeddu et al. Additionally, Shiragaki et al. in view of Cadeddu et al. coherently teaches these limitations of claims 1 and 3. That is, these limitations of claims 1 and 3 are not divergently taught under Shiragaki et al. in view of Cadeddu et al. Therefore, the recited means in system claims 1 and 3 read on the corresponding steps in method claim 6. Claim 6 also includes limitations absent from claims 1 and 3. Shiragaki et al. also discloses these limitations:

an optical ring network (Figures);  
detecting (col. 13, line 48 and col. 14, line 4) a failed link among the bidirectional links;  
and  
transmitting a failure message (col. 7, lines 15-51, OAM frame) between the nodes in the one pair based upon at least one of non-receipt of the optical signals and receipt of the optical signals that are degraded (col. 7, lines 15-51).

**Regarding claim 7**, claim 7 is a method claim that corresponds largely to the system claim 2. Therefore, the recited means in system claim 2 read on the corresponding steps in method claim 7. Claim 7 also includes a limitation absent from claim 2. This limitation is:

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optically separating *each* wavelength of the respective subset of wavelengths from the set of transmission wavelengths.

Shiragaki et al. also discloses such separating (demultiplexers in Figures).

**Regarding claim 8**, Shiragaki et al. in view of Cadeddu et al. discloses:

The method according to claim 6, wherein the step of detecting comprises:

verifying, in each of the plurality of nodes and for each wavelength in the set of wavelengths, whether the optical signals are received (col. 7, lines 15-19, verification of signal reception is inherently part of monitoring the BER).

**Regarding claim 9**, Shiragaki et al. in view of Cadeddu et al. discloses:

The method according to claim 6, wherein the step of detecting comprises:

verifying, in each of the plurality of nodes and for each wavelength in the set of wavelengths, whether the optical signals are degraded (col. 7, lines 15-19).

**Regarding claim 10**, Shiragaki et al. in view of Cadeddu et al. discloses:

The method according to claim 6, wherein the step of detecting comprises:

verifying, in each of the plurality of nodes and for each wavelength in the set of wavelengths, whether the optical signals include a failure message (col. 7, lines 41-51).

### ***Double Patenting***

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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11. **Claims 1-3, 6-7, and 13** are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 2, 4, 6, 15, and 22 of copending Application No. 09/750,311 in view of Shiragaki et al. and Karasan et al.

Claim of instant application	Corresponding claim(s) of copending application	Limitation(s) of claim of instant application NOT expressly disclosed in corresponding claim(s) of copending application
1	Combination of 4+6	<p>- plurality of information <i>extraction</i> devices obviousness argument: Shiragaki et al. teaches a plurality of information insertion devices that insert information and a plurality of information extraction devices that extract corresponding information inserted by the information insertion devices (Shiragaki et al., col. 6, lines 41-53). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to include a plurality of information <i>extraction</i> devices to correspond to the plurality of information insertion devices of the copending application. One of ordinary skill in the art would have been motivated to do this to provide control for protection switching (Shiragaki et al., col. 6, lines 41-53).)</p> <p>- <i>the optical transponders being configured to change wavelengths of the optical signals</i> obviousness argument: Karasan et al. teaches <i>optical transponders configured to change wavelengths of optical signals</i> (Karasan et al., page 1343, col. 2, last paragraph). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to include the transponders of Karasan et al. in the information insertion and extraction devices of the copending application in view of Shiragaki et al. One of ordinary skill in the art would have been motivated to do this to provide adaptation of inter-node signals of one wavelength (such as 1.55 <math>\mu\text{m}</math>) to intra-node signals of another standard wavelength (such as 1.3 <math>\mu\text{m}</math>). "Such transponders thus arrest accumulating performance-degradations; provide the open, nonproprietary interfaces that permit multivendor interworking; and offer a means of carrying out the performance-monitoring and fault-localization that are essential in deployed networks" (Karasan et al., page 1343, col. 2, last paragraph – page 1344, col. 1, 1<sup>st</sup> paragraph).</p>
2	Combination of 2+4+6	
3	Combination of 4+6	

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6	22	
7	Combination of 15+22	
13	Combination of 4+6	<p>- a plurality of <i>receiving</i> transponders optically coupled to the first optical carrier and the second optical carrier obviousness argument: Karasan et al. teaches <i>transmitting and receiving</i> optical transponders configured to change wavelengths of optical signals (Karasan et al., page 1343, col. 2, last paragraph). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to include a set of both <i>transmitting and receiving</i> transponders of Karasan et al. in the node of the copending application. One of ordinary skill in the art would have been motivated to do this to provide adaptation of inter-node signals of one wavelength (such as 1.55 <math>\mu\text{m}</math>) to intra-node signals of another standard wavelength (such as 1.3 <math>\mu\text{m}</math>). "Such transponders thus arrest accumulating performance-degradations; provide the open, nonproprietary interfaces that permit multivendor interworking; and offer a means of carrying out the performance-monitoring and fault-localization that are essential in deployed networks" (Karasan et al., page 1343, col. 2, last paragraph – page 1344, col. 1, 1<sup>st</sup> paragraph).</p> <p>- a plurality of optical switches obviousness argument: However, claim 6 of the copending application discloses a "reconfigurable optical switch unit" (copending application, via parent claim 3) that corresponds to the plurality of optical switches. A switch unit comprising a plurality of optical switches is well known and conventional in the art. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have the switch unit of the copending application comprise a plurality of optical switches. One of ordinary skill in the art would have been motivated to do this since it is generally easier to construct, maintain, and repair a complex switch unit that comprises a plurality of optical switches than a complex switch unit that comprises a single monolithic switch structure.</p> <p>- wherein the optical switches are configured to <i>operate selectively under a normal operating condition and under a failure condition</i> obviousness argument: Additionally, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to configure the optical switches to operate selectively under a normal operating condition and under a failure condition. One of ordinary skill in the art would have been motivated to do this since the network of the copending application configures the</p>

		<p>nodes under a normal operating condition and under a failure condition by switching transmissions from a working path to a protection path (copending application, via parent claim 1); the optical switches are obvious candidate components to perform such switching.</p> <p><i>- the transponders using a first wavelength on the first optical carrier and a second wavelength that is different from the first wavelength on the second optical carrier during the normal condition, the transponders using the first wavelength on the second optical carrier and the second wavelength on the first optical carrier during the failure condition</i></p> <p>obviousness argument:  Finally, claim 6 of the copending application discloses using a first wavelength on the first optical carrier and a second wavelength that is different from the first wavelength on the second optical carrier during the normal condition (copending application, via parent claim 1) and using the first wavelength on the second optical carrier and the second wavelength on the first optical carrier during the failure condition (copending application, via parent claim 1). Claim 6 of the copending application also discloses transponders (copending application, claim 6). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have the transponders perform these uses of the first and second wavelengths on the first and second optical carriers. One of ordinary skill in the art would have been motivated to do this since these transponders are optically coupled to said first and second carriers (copending application, claim 6) and are adapted to change the signals' wavelengths (Karasan et al., page 1343, col. 2, last paragraph – page 1344, col. 1, 1<sup>st</sup> paragraph).</p>
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This is a provisional obviousness-type double patenting rejection.

### ***Response to Arguments***

12. Applicant's arguments with respect to the independent claims 1, 6, and 13 have been considered but are moot in view of the new ground(s) of rejection. Amendments to claim 1 introduce the limitations of information insertion devices, information extraction devices, optical transponders, and an optical switch. The combined teachings of Shiragaki et al., Cadeddu et al., and Karasan et al. are applied to address these limitations. Amendments to claim 6 introduce the limitations of switching optical connections and transmitting a failure message. The combined teachings of Shiragaki et al. and Cadeddu et al. are applied to address

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these limitations. Claim 13 was not amended and remains rejected in view of the combined teachings of Shiragaki et al., Cadeddu et al., and Karasan et al.

13. Additionally, Applicant's arguments filed 12 February 2004 (Paper No. 13) have been fully considered but they are not persuasive. Applicant asserts that three criteria for establishing a case of obviousness have not been met: suggestion or motivation to combine the references, reasonable expectation of success, and the teaching or suggestion of all the claim limitations by the prior art combination of references (Paper No. 13, p. 10, last paragraph – p. 11, 1<sup>st</sup> paragraph).

Regarding suggestion or motivation to combine, Examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, there are two combinations: Shiragaki et al. combined with Cadeddu et al. and Shiragaki et al. in view of Cadeddu et al. combined with Karasan et al. The motivation for modifying Shiragaki et al. by incorporating transmitters and receivers, as taught in Cadeddu et al., is that transmitters and receivers are inherently necessary to generate and process optical signals in the nodes of Shiragaki et al. in view of Cadeddu et al. (see treatment of claim 1 under 103 above). The motivation for modifying Shiragaki et al. in view of Cadeddu et al. by incorporating transponders, as taught in Karasan et al., is to provide benefits of transponders that “arrest accumulating performance-degradations; provide the open, nonproprietary interfaces that permit multivendor interworking; and offer a means of carrying out the performance-monitoring and fault-localization that are essential in deployed networks” (Karasan et al., page 1343, col. 2, last paragraph – page 1344, col. 1, 1<sup>st</sup> paragraph) (see

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treatment of claim 1 under 103 above). Thus, Applicant's point about the first criterion is not persuasive.

Regarding reasonable expectation of success, Examiner notes that a case of prima facie obviousness has been made. The burden falls to the Applicant to rebut this case with objective evidence of non-obviousness. Mere argument does not overcome the prima facie case of obviousness. In Applicant's response (Paper No. 13), no such evidence is presented. Thus, Applicant's point about the second criterion is not persuasive.

Regarding the teaching or suggestion of all the claim limitations by the prior art combination of references, Examiner notes that a case of prima facie obviousness has been made. The burden falls to the Applicant to rebut this case with objective evidence of non-obviousness. Mere argument does not overcome the prima facie case of obviousness. In particular, Applicant presents the following as objective evidence:

"[N]one of the references alone or in combination teach, suggest, or disclose each and every limitation" (Paper No. 13, p. 11, 1<sup>st</sup> paragraph).

Examiner respectfully disagrees. The standing 102 rejections already address this assertion (see treatment of claim 1 under Shiragaki et al. above). Thus, Applicant's point about the third criterion is not persuasive.

Accordingly, Applicant's argument that three criteria for establishing a case of obviousness have not been met is not persuasive. Thus, Examiner respectfully maintains the standing rejections.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David S. Kim whose telephone number is 703-305-6457. The examiner can normally be reached on Mon.-Fri. 9 AM to 5 PM (EST).




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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 703-305-4729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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DSK

  
LESLIE PASCAL  
PRIMARY EXAMINER